

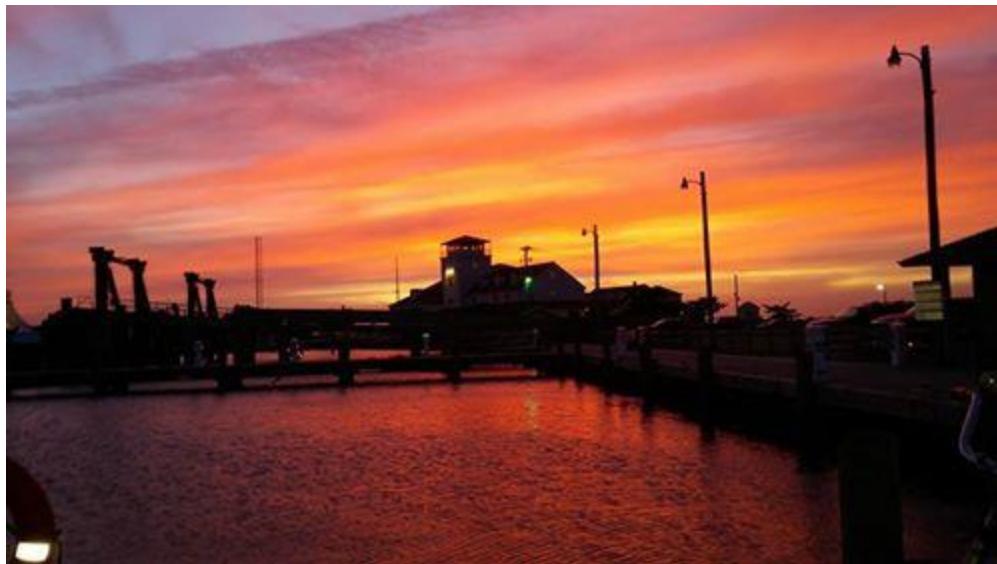
## Ocracoke trip - Hurricane Maria & Engine Trouble

Janet and I love Ocracoke as a sailing destination and have been there many times since our first visit over 27 years ago. We sailed there in June aboard Wind Drift and had a great time attending the Ocracoke Festival so we planned to return in September when it wasn't so crowded.

We knew Hurricane Maria was going to be a factor but the forecast was for it to pass well offshore but delivering some wind and rain to Ocracoke. We planned to hunker down and read, rest and relax during the 1 or 2 days of rain and wind from Maria. We were stocked well with provisions and thought we would be fine.

Friday Sept. 22, 2017. Janet and I left Pamlico Plantation / Broad Creek getting Wind Drift underway about 8 AM for the 58 mile trip to Ocracoke. We mostly motored and motorsailed over to Ocracoke with light westerly winds. As we approached Ocracoke the wind shifted to southerly and picked up to 10 to 12 knots. We hoisted sail and continued the last 13 miles to Big Foot Slough channel under sail power. We doused sail and started the motor prior to entering the channel as the wind was on the nose for the three mile long channel. As we motored into Ocracoke Harbor, Silver Lake we saw that there was plenty of room at the National Park Docks unlike when we were there in June when it was fully occupied. A gentleman from one of the other boats, a Hinckley Bermuda 40 assisted us in tying up.





**This photo and text from my Facebook Post;** “We are at Ocracoke Island sitting on our boat viewing a beautiful sunset. Awaiting Maria passing by offshore over the next few days.”

Saturday Sept 23, 2017. We enjoyed walking around Ocracoke on Saturday visiting the shops and Ocracoke Working Watermen’s Exhibit in the community center. We had lunch at the Jolly Roger.

Sunday Sept. 24 I spent the morning cleaning the boat, and washing the mud off the anchor rode and cleaned the anchor locker. Our friend on the Hinckley Bermuda 40 decided to leave for his homeport of Broad Creek - Whortonsville and we gave him some assistance as the wind was pushing him hard against the dock. He smartly sailed out of the harbor with reefed sails.

Sunday afternoon, we had a late leisurely lunch at the Ocracoke Island Bar & Grill. We went there to watch the ECU vs UCONN football game. We enjoyed lunch and watching the game on TV. We are ECU fans but we are from Connecticut so we have some affinity there too. I posted on my facebook page “*ECU 27 to UCONN 14 at halftime! Lunching at Ocracoke Island Bar & Grill.*” This was one of the few games ECU won this year so we were happy with their win and celebrated with another drink.

Later that afternoon and evening back at the boat I checked the weather forecast and progress of Maria.

NOAA Forecast;

*“For the past several days, forecasts showed the storm moving well offshore up the East Coast before curving out to sea. The projected path as of Saturday morning shifted considerably west and reflected a more delayed approach than before, pulling level with the Carolinas Wednesday morning, according to the National Hurricane Center.”*

Then I got a text from a friend, Candice Cobb whom I worked with at UNC-TV. Candice and her friend Martha McMillan own a home on Ocracoke. Her text advised me that there was going to be a mandatory evacuation of the island for all tourists beginning at 5 AM Monday. Candice's late mom used to own a hotel at Ocracoke for many years. Some nice friendly local folks came by and offered for us to stay at their home during the storm and they said they expected severe flooding on the sound side as the storm passed and that the water will be well over the docks where we were tied up.

With all this scary information we decided to leave Ocracoke the following morning and head back to home port rather than take our chances staying at Ocracoke.

Monday Sept. 25, 2017 We got underway from Ocracoke about 7:00 AM. We waited until the ferry went out. We were bundled up with foul weather clothing, lifejackets with integral harness and tether and the winds were strong 30 knots or so out of the Northeast. It was a long slog out the channel into big waves and wind. We were happy to exit the channel and set a course of 300 degrees M for home. We opened the jib slightly but kept the motor running for now as we wanted to get across the Pamlico Sound as quickly as possible. We were doing 7 knots. We were on a course for home for maybe 15 minutes when I noticed an unmistakable change in the sound of the engine, the exhaust got louder like a tractor and I immediately knew we lost cooling water as the exhaust sound was not muffled by the water. As I reached to shut down the engine, the over temperature alarm sounded.

The wind was from the northeast at 30 knots gusting to 40. There was a long fetch all the way from Manteo about 50 miles, for waves to build and waves were crashing into our starboard stern quarter. We kept our back to the waves crashing into the boat. We were sailing at good speed on our course of 300 degrees toward the Pamlico River. Thankfully, the autopilot was doing a good job of keeping us on course although corrected a few degrees for leeway. Janet too was doing a great job standing watch while I worked on the engine cooling problem.

I went below and checked the raw water strainer and found almost no debris in there. I checked to see that water was coming in freely from the Kingston cock. The next thing I suspected was the impeller in the raw water pump. The boat was lurching violently in the rough seas so I decided to delay trying to disassemble the seawater pump to inspect it. Janet was keeping watch while I was below working on the problem.

I has been changing the impeller every two years. Every time I replaced the impeller, the one I removed was perfect so I let it go three years this time. This was a different brand (Johnson) than the Yanmar brand I had been using previously.

We quickly sailed across Pamlico Sound and as we entered into the lee of Swan Quarter, the waves calmed down some. So, I decided to disassemble the water pump and found five of the six vanes were broken off the impeller. I located 4 of the 5 vanes. One was missing and I suspected it went up into the heat exchanger. I had 2 new spare Yanmar impellers aboard.

I removed the damaged impeller and proceeded to install the new impeller. I had Janet crank over the engine briefly to verify the direction of pump rotation so I could bend the vanes on the replacement impeller in the correct direction. As the engine turned over, the woodruff key fell out of the pump shaft and disappeared. I suspected it went into the outlet hose so I removed the hose and tilted it down and out came the shaft key and the missing fifth impeller vane. Now I have located all five missing vanes!

I was holding the little key with rounded ends in between my fingers to look at it and it slipped out of my fingers and I saw it go down in a hole where coolant lines go to the water heater. It was under the floor grid somewhere in a nearly inaccessible place. I could not see it or locate it. I unscrewed and removed floorboards but could not access or see the missing shaft key. Darn ! If it was a game and I had to toss this key into that little hole I never would have been able to do it!

We continued to sail, at good speed toward our home port, Broad Creek. The wind and waves were less now that we were in the Pamlico River than they were out in Pamlico Sound and I pulled out a little more jib sail to keep our speed up. We continued to sail all the way up the Pamlico River to where we were to turn north into Broad Creek. The wind was now coming out of the north. I was unable to run the engine without cooling but we needed the motor to go into the wind to make the last mile into our marina.

I contemplated getting a tow. I could lower the dingy and tow the boat in myself, then I had an idea. I furled the jib. We had several extra gallon jugs of drinking water on board. So, I removed the hose going into the heat exchanger from the raw water pump and inverted it up toward the companionway. I reattached it to the inlet of the heat exchanger. I placed a small funnel in the up end and directed Janet to pour water slowly into the funnel after I started the motor. The motor ran fine with the poured water cooling and we were able to continue into Broad Creek, to the marina and back into the slip and tie up. Janet was part way through pouring the fourth gallon when we stopped in the slip. We unloaded the boat, went home and had a good night's sleep.

The next morning I went to work fixing the boat. I used a digital inspection camera and quickly located the missing woodruff key. The key is rounded on each end to fit a similar opening in the pump shaft. Guided by the inspection camera, I used a lighted remote flexible grabber to retrieve it.



I installed the new impeller in the pump and also installed two new belts on the engine while I was at it. The engine is all is back to normal. Much easier to work on when boat is not rolling and lurching in heavy seas!

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